



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

09/904,999

07/13/2001

Kai Wa Ng

INN0 5

3538

7590

08/25/2004

Timothy P. O'Hagan
PO Box 1054
Portsmouth, NH 03802

EXAMINER

MCFADDEN, SUSAN IRIS

ART UNIT

PAPER NUMBER

2655

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Best Available Copy

| | | | |
|------------------------------|--------------------------------------|----------------------------------|--|
| Office Action Summary | Application No. 09/904,999 | Applicant(s) NG ET AL. | |
| | Examiner Susan McFadden | Art Unit 2655 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>3 Sept</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1- 21 are rejected under 35 U.S.C. 102(e) as being anticipated by St John (6,463,415).

In regard to claim 1, St John show a system and method for speaker verification comprising: a) obtaining a plurality of frames of compressed audio formants representing the speaker uttering a predetermined password (claimed pass phrase, col. 38)), each frame including: i) energy and pitch data characterizing the residue of the speaker uttering the predetermined pass phrase (col. 7, ln 55-60); and ii) formant coefficients characterizing the resonance of the speaker uttering the predetermined pass phrase (col. 7, ln 65), and b) verifying the identity of the speaker by matching at

least one of: i) energy data ii) pitch data; and iii) formant coefficients in the frames to at least one of energy, pitch, and formant coefficients of a plurality of sample frames stored in memory (col. 1, ln 53-60, Fig. 21).

In regard to claims 2 and 6, St John show a system and method that receives compressed audio formants from a remote Internet telephony device (col. 16, ln 33-35).

In regard to claims 5 and 8, St John show a system and method of determining whether a speaker is a registered speaker, the method comprising: a) obtaining compressed audio formants representing the speaker uttering a predetermined password (col. 38), the compressed audio formants including: i) energy and pitch data characterizing the residue of the speaker uttering the predetermined password (col. 7, ln 55-60), ii) formant coefficients characterizing the resonance of the speaker uttering the predetermined pass phrase (col. 7-8), b) determining whether the speaker is the registered speaker by matching at least one of energy, pitch, and formant coefficients from the compressed audio formants to predetermined combinations of at least one of energy, pitch, and formant coefficients of sample compressed audio formants known to represent the registered speaker (pattern matching, col. 43. Figs. 21, 29).

In regard to claims 3 and 7, St John show a system and method that receives audio input of the speaker uttering a password, digitizes this, and compresses the audio to generate compressed audio formants (col. 45, Fig. 33).

In regard to claims 4,9,15, and 21, St John shows a system and method that can normalize a sequence of frames or data (col. 18, ln 19).

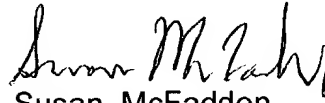
In regard to claims 10,11,16, and 17, St John show a system and method for speaker verification comprising: a) network interface for receiving compressed audio formants (energy and pitch data, col. 7) via packet switched network (Internet telephony device, col. 16, In 33-35),b) a telephony server application (Fig. 33), a database storing a plurality of compressed audio formant samples (col. 9-10, Fig. 6), and a verification application for comparing samples to determine whether the remote speaker is the registered speaker (col. 37-38, Fig. 21).

In regard to claims 12-14, and 18-20, St John show a system and method wherein the verification application determines whether at least one of energy, pitch or a formant coefficients are matched to a sample in a frame(inherent in voice verification algorithms, col. 39, In 50-60).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan McFadden whose telephone number is 703-308-6693. The examiner can normally be reached on Monday-Friday, 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 703-305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Susan McFadden
Primary Examiner
Art Unit 2655

August 19, 2004

Best Available Copy